INTEGRATED AIRCRAFT FLIGHT DYNAMICS PREDICTION AND SIMULATION

Abstract of the Disclosure

In a flight simulator program, a flight dynamics editing module enables the user to input parameters for modifying an existing aircraft design or creating an aircraft design. Starting with the type and purpose of aircraft, the user is able to specify parameters defining the configuration, and various other aspects of the aircraft, including the number and type of engines, properties of the flight controls, type of landing gear, etc. Once the user has input the parameters, an aerodynamic coefficients generator module included with the flight simulation program determines aerodynamic coefficients for the aircraft design, using classical formulas and determining the coefficients in an appropriate order. The aerodynamic coefficients and certain parameters input by the user are then output as two flight model data files, in a format usable by the flight simulator program, so that the user can evaluate the aircraft design by flying it within the simulation.